REMARKS

The foregoing amendment does not include the introduction of new matter into the present application for invention. Therefore, the Applicant, respectfully, requests that the above amendment be entered in and that the claims to the present application be, kindly, reconsidered.

The Office Action dated July 7, 2004 has been received and considered by the Applicants. Claims 1-46 are pending in the present application for invention. Claims 1-5, 7-14, 16-25, 27-35, and 37-45 stand rejected and Claims 6, 15, 26, 36, and 46 are objected to by the July 7, 2004 Office Action.

The Office Action rejects Claims 5, 7, 9, 14, 18, 25, 27, 29, and 39 under the provisions of 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner states that the term "unable to reliably determine" is a relative term which renders the claims indefinite. The Applicants would like to, respectfully, point out that the foregoing amendment to the claims has corrected these oversights by removing the complained of term "unable to reliably determine" to correct this oversight.

The Office Action rejects Claims 1, 3-5, 7-9, 12, 21, 23-25, 27-29, and 32-33 under the provisions of 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,488,419 issued to Hui et al. (hereinafter referred to as Hui et al.). The Examiner making the rejection states that Hui et al. disclose a video compression coding and decoding with automatic sub-pixel frame/field motion compensation comprising the same method for applying proper interpolation for motion compensation in a video data stream, the method comprising the steps of: determining a likely local nature of a reference frame data area in the video data stream; and applying proper interpolation to the reference frame data area according to the determined likely local nature of the reference frame data areas as specified in Claims 1 and 21, further comprising the step of evaluating the video data stream to determine whether the video data stream was encoded using field motion compensation or frame motion compensation as specified in Claims 3 and 23; further comprising the step of applying field-based interpolation to the video data stream if the video data stream was encoded using field motion compensation as specified in

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Claims 4 and 24; wherein the step of evaluating the video data stream to determine whether the video data stream was encoded using field motion compensation or frame motion compensation results in a determination that the video data stream was encoded using frame motion compensation and that encoding determined for decoding to fetch the reference frame data area staring from a pixel position, wherein the step of determining a likely local nature of a reference frame data area in the video data stream is unable to reliably determine that the likely local nature of the reference frame data area comprises a stationary area.

Regarding the rejection to Claim 1, the foregoing amendment to the claims has added the features of Claim 2 to the amended version of Claim 1. The Applicant, respectfully, asserts that the amended version of Claim 1 is clearly allowable over the cited reference Hui et al. The Examiner asserts in the rejection to Claim 2, that the features of Claim 2 are obvious in view the teaching of Hui et al. as being merely obvious design choices. The Applicant, respectfully, disagrees. There is not even to the slightest mention, teaching or suggestion, within Hui et al. for implementing a vertical component of a motion detector to determine the likely local nature of a reference frame data area in the video data stream. The Examiner asserts that either the horizontal component of motion vector as taught by Hui et al., or the vertical component of motion as taught by the present invention can be used to obtain the same result, however the Examiner does not provide any evidence to support the assertion plate that same result is reached by using a vertical component of motion compared to the manner by which Hui et al. implements a horizontal component of motion. The Applicant, respectfully, points out that the horizontal component of motion as taught by Hui et al. must be greater than a determine threshold before field based interpolation will be used instead of the frame based interpolation mode (see column 5, lines 1-5). The Applicant further points out that no such requirement exists in the manner in which the vertical component of motion to find by the claims or taught by the specification to the present invention. The Examiner further asserts, that the recitation of utilizing a vertical component of motion determine the nature of a reference frame data in a video stream is merely obvious design choice. The Applicant, respectfully, disagrees. Hui et al. do not teach or suggest the potential for using a vertical component of motion to determine the nature of a reference frame data

area within the video stream. The Applicant, respectfully, points out that Hui et al. teach that once the absolute value of the horizontal component is greater than a threshold, the field based interpolation mode will be used instead of the frame based interpolation mode. The subject matter defined by rejected Claim 2 to the present invention utilizes the vertical component of a motion vector to determine a likely local nature of a reference frame data in the video data stream. The Applicant would like to draw the Examiner's attention to page 12 of the specification of the present invention lines 7-13, wherein it is stated that interlacing occurs in the vertical direction, pixels within the same line (horizontal) are always in the same field and that utilizing the vertical component of a motion vector can indicate the local characteristics of a data area. The Applicant, respectfully, points out that the foregoing concepts are not taught or suggested by the prior art reference, Hui et al. Accordingly, the Applicant does not concurrent with the assertions contained within the Office Action that allege usage of a vertical component of motion in lieu of a horizontal component of motion is merely an obvious design choice. Therefore, Claim 1 as amended is believed to be allowable over the cited reference, Hui et al.

Claims 3 through 12 depend from Claim 1, either directly or indirectly, and further narrow and defined Claim 1. Therefore, Claims 3 through 12 are also believed to be allowable.

Regarding the rejection of Claims 21, 23-25, 27-29, and 32-33 under the provisions of 35 U.S.C. §102(b) as being anticipated by Hui et al. Claim 21 has been amended to incorporate the feature formerly recited in Claim 22 (canceled by the foregoing amendment) for the motion compensation predictor being adapted to utilize a vertical component of a motion vector to determine a likely local nature of a reference frame data area in the video data stream. The Applicant, respectfully, submits that amended Claim 21 is allowable over the cited reference, Hui et al., for reasons similar to that appears they discussed regarding amended Claim 1. Claims 22-33 depend from Claim 21, either directly or indirectly, and further narrow and define Claim 21. Therefore, Claims 22-33 are believed to be allowable over the cited reference, Hui et al.

The Office Action rejects Claims 2, 13-14, 16-18, 22, 32-35, 37-39, and 41-44 under the provisions of 35 U.S.C. §103(a) as being unpatentable over Hui et al. The

Applicant, respectfully, points out that Claims 2-12 have been previously addressed and as discussed above are believed to be allowable.

Regarding Claims 13-19, which all depend from Claim 13, either directly or indirectly, the Applicant respect to points out that independent Claim 13 recites the feature of utilizing a vertical component of motion vector to determine a likely local nature of a reduced resolution reference frame data area in the video data stream, as previously discussed under the rejection of Claims 1 and 2, there is no disclosure or suggestion within the cited reference Hui et al. for implementing a vertical component of motion vector to determine nature of a reference frame within a few data stream. Therefore, Claims 13-19 are believed to be allowable for the reasons previously discussed regarding amended Claim 1.

Regarding Claims 22-33, these claims have been addressed in response to the rejection of Claim 21.

Regarding Claims 34-35, 37-39, and 41-44, the Applicant respectfully points out that Claim 34 recites the feature of utilization of a vertical component of a motion vector to determine a likely local nature of a reduced resolution reference frame data area in the video data stream. As previously discussed in manner similar to the response to the rejection of Claim 1 this feature is believed to be allowable over the cited reference, Hui et al. Claims 35-45 depend from Claim 34, either directly or indirectly, and further narrow and defined Claim 34. Therefore Claims 35-45 are believed to be allowable over the cited reference, Hui et al.

The Office Action rejects Claims 10-11, 19-20, 30-31, 40, and 45 under the provisions of 35 U.S.C. §103(a) as being unpatentable over Hui et al., in view of U.S. Patent No. 5,790,174 issued to Richard, III et al., (hereinafter referred to as Richard III et al.). The Examiner making the rejection states that as applied to Claims 1, 13, 21, and 34 Hui et al. although discloses a MPEG encoding and decoding system, but does not particularly disclose "determining dynamically real time a likely local nature" address the real time nature as claimed. The Examiner further states that Richard et al. teaches that for compression technique using Motion Estimation, Motion-Compensation Predictive Coding and Adaptive Discrete Cosine Transform (DCT) Quantization is supported by the International Standards Organizational (ISO) Moving Pictures Expert Group (MPEG).
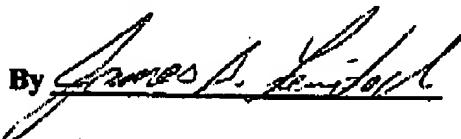
The applicant respectfully submits that the previously discussed feature of utilizing a vertical component of the motion vector to determine a likely local nature of a reference frame data area in the BU data stream is not found in either of the cited references, Hui et al. or Richard III et al. Therefore, Claims 10-11, 19-20, 30-31, 40, and 45 are believed to be allowable for the previously discussed reasons.

In an effort to move the present application for invention towards allowance, the Applicants have amended the claims to the invention.

Applicant is not aware of any additional patents, publications, or other information not previously submitted to the Patent and Trademark Office which would be required under 37 C.F.R. 1.99.

In view of the foregoing amendment and remarks, the Applicant believes that the present application is in condition for allowance, with such allowance being, respectfully, requested.
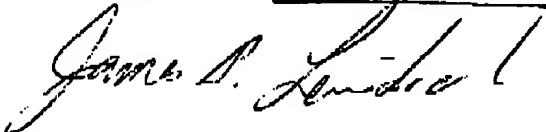
Respectfully submitted,

By

James D. Leimbach, Reg. 34,374
Patent Attorney (585) 381-9983

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